

REMARKS

Claims 1-7 and 9-11 are pending in the application. Claims 1 and 11 have been amended to further clarify the presently claimed invention. Support for the amendments to claims 1 and 11 can be found at pages 3-6 in the specification. No new matter has been inserted into the application. It is believed that no new issue is raised requiring further search or consideration. Accordingly, entry of the amendments to the application is respectfully requested.

Rejection Under 35 USC § 102(b) over ‘677 (U.S. Patent 4,943,677)

Claims 1-11 have been rejected under 35 U.S.C. §102(b) as being anticipated by ‘677. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

The Presently Claimed Invention

The presently claimed invention is directed to methods of preparing a catalyst for polymerization of aliphatic polycarbonates and polymerizing an aliphatic polycarbonate.

‘677

‘677 discloses poly(alkylene carbonates) of controlled molecular weight made by copolymerizing carbon dioxide and one or more oxirane compounds using zinc polycarboxylate catalyst in the presence of a sterically hindered organic proton donor. However, ‘677 fails to disclose or suggest a method of preparing a catalyst for polymerization of aliphatic polycarbonates in a solution that includes a templating agent and a method of polymerizing an aliphatic polycarbonate as in the presently claimed invention.

Distinctions of the presently claimed invention over ‘677

Applicants submit that a templating agent is used to prepare a catalyst for polymerization of aliphatic polycarbonates in the presently claimed invention. Applicants

note that the templating agent acts to modify and control the morphology of inorganic materials and such modification of morphology allows the surface structure on which catalyst activity depends to be of a molecular scale, and therefore such morphological modification improves catalytic activity as discussed in the specification of the present application. Accordingly, the presence of the templating agent is a significant feature of the claimed invention as it improves catalytic activity in comparison to conventional catalyst prepared without the templating agent.

The '677 reference is silent about use of any templating agent and discloses an example of such conventional catalyst preparation without a templating agent. Therefore, the '677 reference fails to teach or suggest use of any templating agent as in the presently claimed invention. Further, claims 1 and 11 have been amended using language from the specification as suggested by the Examiner to more clearly set forth the presently claimed invention. Accordingly, it is believed that '677 fails to anticipate the presently claimed invention.

Rejection Under 35 USC § 103(a) over '677 in view of Li-Chen (Li-Chen et al., 1987)

Claims 1-11 have been rejected under 35 U.S.C. §103(a) as being obvious over '667 in view of Li-Chen. Applicants traverse this rejection. Reconsideration and withdrawal thereof are respectfully requested.

'677 is discussed above.

Li-Chen

The Li-Chen reference discloses polymer-supported zinc catalysts which were prepared by the reaction of diethylzinc with polymers containing carboxyl groups. However, Li-Chen fails to disclose or suggest a method of preparing a catalyst for polymerization of

aliphatic polycarbonates in a solution that includes a templating agent and a method of polymerizing an aliphatic polycarbonate as in the presently claimed invention.

Distinctions of the presently claimed invention over the cited references

As discussed above, '677 fails to teach or suggest use of any templating agent. The Li-Chen reference fails to remedy the deficiencies in '677 in failing to disclose or suggest use of any templating agent to prepare a catalyst for polymerization of aliphatic polycarbonates as in the presently claimed invention. Li-Chen discloses merely that the polymer containing carboxyl groups acts as a supporter, but not as a templating agent.

Further, in the presently claimed invention, the templating agent is removed during the filtering step after completion of the catalyst forming reaction so that the templating agent is no longer present in the resulting catalyst as described at page 5 in the specification of the present application. In contrast, in the Li-Chen reference, the polymers are not removed and remain in the catalyst.

Therefore, Li-Chen is not applicable to the presently claimed invention and none of the cited references discloses or suggests the use of the templating agent to prepare a catalyst for polymerization of aliphatic polycarbonates. Further, claims 1 and 11 have been amended using language from the specification as suggested by the Examiner to more clearly set forth the presently claimed invention. In particular, the amended claims 1 and 11 indicate that the templating agent is removed from the catalyst after forming the catalyst. Accordingly, it is believed that the presently claimed invention is not obvious over the cited references.

Conclusion

It is believed that the application is now in condition for allowance. Applicants request the Examiner to issue a notice of Allowance in due course. The Examiner is encouraged to contact the undersigned to further the prosecution of the present invention.

The Commissioner is authorized to charge JHK Law's Deposit Account No. **502486** for any fees required under 37 CFR §§ 1.16 and 1.17 and to credit any overpayment to said Deposit Account No. **502486**.

Respectfully submitted,

JHK Law

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